species of Nyctinonus, and resemble Myopterus), in their distinctly separated ears, in the possession of six lower incisors, and in the presence of a glandular gular sac. These characters appear sufficient to unite them in a subgenus at least. But N. norfolcensis has an additional upper premolar, which is even better developed than in other species of the genus, and therefore belongs to the subgenus Nyctinonus; while N. albiventer and N. acetabulosus, on account of the absence of this small premolar, are relegated to the subgenus Mormopterus.

It is therefore impossible, in a natural arrangement of the species, to separate *N. albiventer* and *N. acetabulosus* into a distinct subgenus characterized by the number of the upper premolars; for this would exclude *N. norfolcensis*, which is, undoubtedly, in all other respects, very closely allied to them, and forms with them a well-

defined section of the genus.

3. Report on some of the Additions to the Collection of Mammalia in the British Museum. By Dr. Albert Günther, F.R.S., V.P.Z.S., Keeper of the Zoological Department.

[Received November 6, 1876.]

(Plates LXIX-LXXIV.)

1. On a Collection from the Philippine Islands.

A small collection made by Professor Steere in the Philippine Islands gives some additional information as regards the distribution of certain species in that group. It contains:—

Macacus philippinensis (Is. Geoffr.).

This Monkey was procured in the mountains of Mahayhay, in the island of Luzon, near Manila. Dr. Steere also shot the same species, or apparently the same, in the islands of Palawan, Mindanao, and Basilan. They go in large troops, and are often seen along the seashore, where they seem to be occupied in hunting for shell-fish and crabs.

Galeopithecus philippinensis (Waterh.), from Bojol.

Pteropus jubatus (Temm.), from Mindanao. Tupaia javanica (Horsf.), from Palawan.

Viverra tangalunga (Gray), from Panay.

Sciurus exilis (S. Müll.), from Basilan (also found in Mindanao). Sciurus steerii (sp. n.),

Sciurus steerii (Plate LXIX).

Dr. Steere's collection contained two examples of this apparently undescribed species, which greatly differ in coloration, but are

structurally quite identical:—

1. A specimen obtained from Balabac (marked 6510) has the upper parts, sides of the body and outer side of the legs, of a rich chestnut-brown colour, the hairs being tipped with black, which gives the fur a grizzled appearance. All the lower parts are brownish red.

Hairs of the tail of moderate length, rather stiff, bright brownish red,

each hair with a broad black ring.

2. The second specimen is from Puerto Princesa, Palawan (numbered 6798); it has the upper part of the head, the middle of the back, and the outer side of the legs grizzled with greyish brown and black, each hair having a black ring and black tip. Sides of the body similarly grizzled, but mixed with numerous white hairs. Lower parts pure white, with the exception of the root of the tail; anal region and borders of the white abdomen brownish red. Coloration of tail as in the first specimen, but with the tip black.

	Specimen 1.	Specimen 2.
	in.	in.
Distance from end of snout to root of tail	$9\frac{1}{2}$	9
Length of tail	$6\frac{1}{2}$	7
Length of naked sole of hind foot		$1\frac{1}{2}$
Length of skull		2

2. On a Collection from Borneo.

Mr. H. Low has brought with him to England a second collection, from the same district in which the specimens described in a former paper (p. 424) were obtained. It contains two molar teeth of an adult Elephant undistinguishable from those of *Elephas indicus*. They had been evidently exposed for a long time to the deteriorating influences of the weather; and although Elephants are no longer found in the immediate vicinity of the west coast, Mr. Low has reliable information of their occurrence in the interior, and has no doubt of this animal being indigenous in Borneo, and not merely an importation.

The following species prove to be undescribed:—

LUTRA LOVII, sp. nov.

Entirely chocolate-brown, nearly black along the middle line of the back. Lips and chin to the level of the ears white, cheeks and throat brown. The white of the upper lip extends upwards nearly to the nostril, and is sharply defined towards the brown part of the snout. Bristles arising from brown parts are black, those from white parts white. Ears conspicuous.

					in.
Distance	of nose	from	vent.		 23
Length o	f tail				 11

Distinguished from Lutra simung by its much shorter tail.

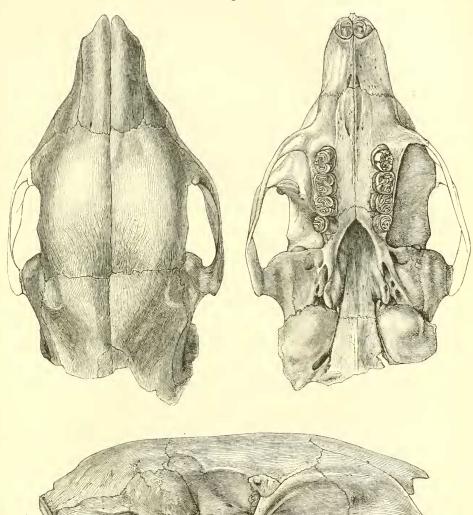
Hystrix crassispinis, sp. nov. (Plate LXX.)

This species, which belongs to the same section as *H. javanica* and the allied species, is distinguished from all by the great size and length of the quills, all of which, moreover, are more or less distinctly grooved above, or at least provided with ridges. It is conspicuously smaller than *H. javanica*, but agrees with it in being covered everywhere with stiff spines, except on the foremost part of the head and abdomen. The largest quills are, in the middle, about twice as thick

(l

Fig. 1.

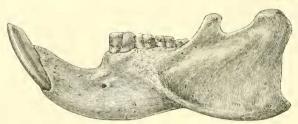
6



Skull of Hystrix crassispinis.

as an incisor. The prevailing hue of the head and fore part of the body is a greyish brown; but towards the large quills the spines are getting whitish at the tip and base. The basal half of the large quills is white, the apical half black with white tip. Slender quills white, with black subcentral ring. Legs blackish*.

Fig. 1a.



Lower jaw of Hystrix crassispinis.

Length of body from tip of nose to root of tail	in. 17	$\frac{\sin}{0}$
Length from nose to ear	3	6
Length of tail with terminal quills	6	0
Length of fore foot	2	0
Length of hind foot	3	0
Length of one of the largest quills	7	0
Length of one of the hollow caudal quills	6	0

Mr. Low brought home four specimens of this species. The existence of a Porcupine in Borneo has been repeatedly mentioned, for instance by Müller, Verhandl. Nat. Gesch. Ned. Overz. Bezitt. p. 36 (under the erroneous name of Hystrix fasciculata), and by W. Marshall, Proc. Zool. Soc. 1871, p. 235, who refers a very young example in the Leyden Museum to Marsden's H. longicauda from Sumatra. From the notes of the Dutch naturalists it is impossible to decide whether the specimens examined by them belong to our species, or whether a second species exists in the island, approaching in size, and perhaps identical with, the Sumatran or Malaccan form.

The Skull (figs. 1, 1^a, pp. 737-8) is distinguished by the shortness of the nasal bones, which are shorter than, or as long as, the frontal suture. The anterior portion of the frontal region is not very convex. Ascending ramus of the intermaxillary broad, about as broad as one of the nasal bones. Infraorbital opening of comparatively moderate width. The palatal incision advancing forwards to the front margin of the hinder molar.

* On the inner side of one of the skins, in which the subcutaneous tissues have been cleared away, the arrangement of the large quills may be distinctly seen. These quills are not uniformly distributed over the hinder half of the back, but their roots are collected in bundles of five, six, or seven, the bundles having the appearance of imbricated pectinated scales. The roots of the largest and thickest quills occupy the middle of each scale or bundle. A similar arrangement has been figured by F. Cuvier, Nouv. Ann. Mus. Paris, i. pl. xv. fig. 1.

I give some of the measurements of two skulls, one (A) being that of an old, the other (B) of a younger, though full-grown, individual.

	Α.	В.
		millim.
Total length	110	110
Length of nasal bone	33	38
Length of frontal suture	39	38
Least width of nasal bone	9	8
Length of fronto-intermaxillary suture	9	7
Least width of interorbital space		40
Distance between incisor and first molar	29	30
Length of upper molar series		25
Width of palate between the second molars	9	8

The skull of this species resembles much that figured by Blainville (Ostéogr. Hystrix, pl. ii.) under the name of Atherura fasciculata. I have not seen the skull of this species; but I should have expected it to be more similar to that of A. macrura than it would appear from Blainville's figure.

TRICHYS, g. n.

Allied to Atherura, but with the tail reduced to a scarcely perceptible projection of the skin. Dentition as in Atherura, but with the lower incisors more compressed. Facial portion of the skull compressed, without enlargement of the air-sinuses. A postorbital process.

TRICHYS LIPURA, sp, n. (Plate LXXI.)

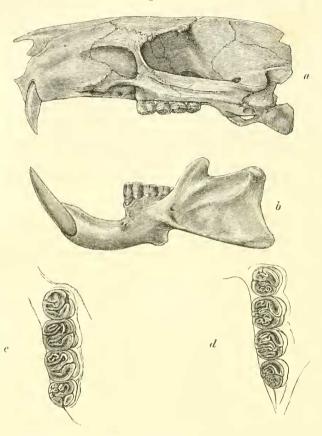
All the upper and lateral parts of the body are densely covered with flat flexible bristles of moderate length, grooved on the upper as well as lower surface. Underfur very scantily represented by fine woolly hairs; and on the rump some long hair-like bristles project beyond the flat ones. On the head and abdomen the bristles are replaced by flat stiff hairs. In the external form and structure of the head, ears, and feet there is no marked difference from Atherura, The general tint of the upper parts of the animal is brown, each spine being white at the base, and brown towards the point. On the sides the brown colour gradually passes into the white of the lower parts. Hairs of the long moustache black, the longest hairs having whitish terminations.

		lin.
Total length	17	0
Distance from nose to ear		
Length of ear	1	0
Length of sole of fore foot		
Length of sole of hind foot		
Length of one of the longest flat spines		

Skull (figs. 2, 2^a, pp. 740-1).—The following notes refer chiefly to points in which *Trichys* differs from *Atherura*. Especially remarkable is the development of a postorbital process, and of the

coronoid process, in which this form differs from most of the other members of the group of Porcupines.

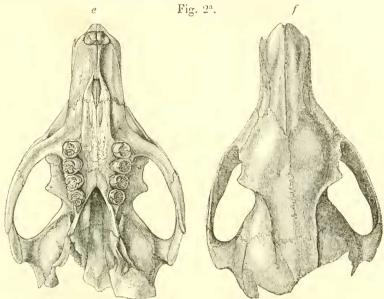
Fig. 2.



a. Skull of Trichys lipura, nat. size.
 b. Lower jaw, nat. size.
 c. Lower molars;
 d. Upper molars: twice nat. size.

The facial portion of the skull is compressed and rather elongate, the nasal bones quite as long as the frontal suture, and extending far more backwards than the suture between intermaxillary and frontal. Frontals rather flat above, with projecting postorbital process, behind which the skull is constricted. The zygomatic arch is strong, deeply channelled along its whole length, and expanded along its lower edge; malar with projecting infero-posterior angle. Palate with a projecting ridge on each side, commencing from the first molar, the ridges converging in front of the foramina incisiva. Palatal notch opposite to

the space between the third and fourth molars. Coronoid process well developed, rising above the level of the condyle. A very conspicuous projection on the lower edge of the mandible marks the boundary between the incisive and molar portions of the bone.



Skull of Trichys lipura, natural size.

The animal described is undoubtedly the same as that of which a fragmentary skull has been figured by M. Gervais, Voy. Bonite, Mamm. pl. 11. figs. 4-6. The author thought it to be identical with Hystrix macrura (Gm.). As far as I can make out from his

description, his materials were:-

1. A dried example, said to have been brought by the naturalists of 'La Bonite' from Sumatra*, where it is called "Landa Klocle." This specimen is also tailless; but M. Gervais adds that he had convinced himself, "qu'il avait été mutilé, lors de la préparatiou." mutilation of any kind has taken place in our Bornean specimen brought by Mr. Low, who, besides, assures me that the natives had told him that this species was tailless.

2. The fragmentary skull taken from that skin, figured by M. Gervais, about the identity of which with that of our animal there

cannot be any doubt.

3. But, singularly, M. Gervais refers further to this species the skeleton of a long-tailed Porcupine with twenty-one caudal vertebræt,

* According to Eydoux's Itinerary, the expedition did not touch at Sumatra (Voy. Bonite, Zool. i. p. xiii.).

† The numbers of vertebræ are differently given on p. 63; but "Acanthion

macrourum" is probably a slip of the pen.

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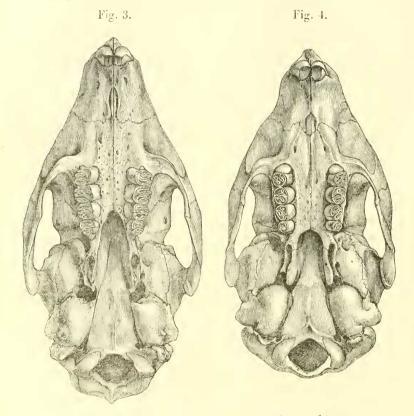
brought to the Paris Museum by Diard and Duvaucel (p. 62). With the evidence of two tailless specimens before us, we may well be justified in supposing that this skeleton does not belong to the same species of which he has figured the skull.

3. On the Cranial Differences of the species of Atherura.

Of the three species of Atherura, viz. :-

1. A. fasciculata (Waterh., ? Shaw), from Siam, with simple, flattened caudal bristles;

2. A. macrura (L., Waterh.)=fasciculata (Gray, Cantor), from the Malayan Province, with twisted and irregularly dilated candal bristles; and



Atherura maerura.

Atherura africana.

- 3. A. africana (Gray), from the west coast of Africa, with candal bristles as in the preceding*,—
 - * I have repeatedly (for instance, P. Z. S. 1867, p. 103) drawn attention to

I know the two latter only. Although readily distinguished in the adult state, they are sufficiently similar when young to render the determination of examples, the origin of which is unknown, a matter of some uncertainty. The skulls, however, show constant, though slight, distinctive characters.

In Atherura macrura (fig. 3, p. 742) the foramina incisiva are extremely narrow slits which run in an almost parallel direction, and are very close together. The palatal notch advances far forwards, to the level of the third molar. The alisphenoid is very thin, but

slightly bent outwards.

In Atherura africana (fig. 4, p. 742) the incisive foramina are narrow, but conspicuously wider and much more distant than in the Malayan species, and divergent behind. The roof of the palate extends far backwards, its hind margin being behind the level of the last molar. The alisphenoid forms a broad and rather thickened ramus, bent ontwards and much produced backwards.

4. On some new Mammals from Tropical America.

HAPALE LEUCOPUS. (Plate LXXII.)

Upper and lateral parts of the body covered with silky hair of moderate length and brownish-grey colour, darkest on the nape of the neck and occiput; face and head with short sparse white hair. Ears large, naked, without tuft. Throat greyish brown; lower parts of the body and inside of the legs rusty red; forearm, hands, and feet white. Tail short-haired, blackish or black, with white extremity.

The female differs from the male in the hairs of the upper parts

having silvery white tips.

Length of head and body $11\frac{1}{2}$ in., of tail $14\frac{1}{2}$ in.

Number of vertebræ: cervical 7, dorsal 12, lumbar 7, sacral 3, caudal 31-33.

Medellin. Several specimens, identical in coloration, collected by Mr. T. K. Salmon near Medellin, Antioquia, U. S. of Columbia.

DACTYLOMYS TYPUS (Is. Geoffr.).

We have received two fine skins of this rare Rodent, unfortunately without skulls, from the Rio Napo.

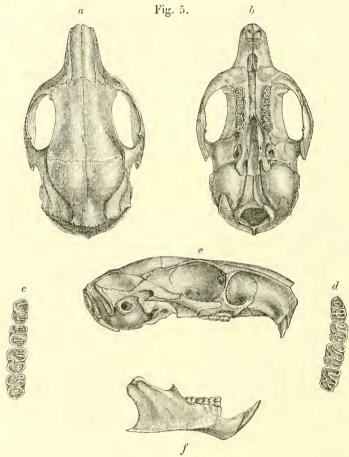
the occurrence on the coast of West Africa of freshwater fishes previously

considered to be exclusively typical of the Indian region.

That these instances escaped the notice of naturalists who have recently discussed the relations of the African and Indian faunas is to me less surprising than the omission of a not less singular fact, viz. the reappearance of Atherura on the West-African coast. It strongly confirms Mr. Wallace's view that there is present, in the Mammals and Birds of West Africa, a special Oriental or even Malayan element (Geogr. Distrib. i. p. 263). Instances of this kind appear to me to be of infinitely greater weight in solving the problem of the mode of dispersion of animals over the globe (or their genesis) than deductions drawn from lists of genera vaguely or artificially defined. On this occasion I may also be allowed to refer to, and thus, perhaps, save from oblivion, some remarks in Rept, Brit. Ind. Introduct, p. viii, in which, I believe, for the first time, the occurrence of African Reptilian types in the Indian Region has been distinctly stated.

LASIUROMYS VILLOSUS (Dev.).

A single specimen was in the collection made by Mr. E. Bartlett on the Huallaga river, and is preserved in spirits. It is an adult female. Being almost destitute of hairs about the head, and the skin of this part being so much injured that nothing could be ascertained about its external appearance, the skull has been removed. The tail had been mutilated during the lifetime of the specimen. The trunk and limbs are in good condition.



Skull of *Lasiuromys villosus*.
c, upper molars; d, lower molars: magnified.

The fur consists of uniformly soft, dense, almost woolly hair of moderate length. Tail densely hairy, the hairs being as dense and

long as those on the back. Colour uniform bright brownish yellow somewhat less bright towards the head, and becoming darker towards the middle of the tail. The mutilated tail measures four inches, and appears to have been twice that length when perfect. The ears seem to have been small; claws of proportionate strength.

	111.	IIII.
Length of trunk (without head)	7	6
Length of sole of fore foot (with claws)	1	0
Length of hind foot!		
Length of third and fourth toes		7

The facial portion of the *skull* (fig. 5, p. 744) is very short, the distance between the incisors and first molar being equal to the length of the molar series. The molar series diverge very slightly in front. Molar teeth distinctly longer than wide, with internal enamelfold deeply penetrating the tooth and sometimes crossing it without interruption. The palatal notch advances to the level of the middle of the third molar. Vertical occipital crest developed.

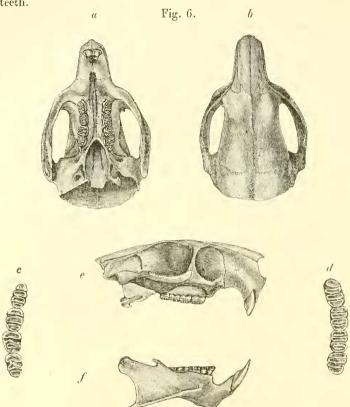
	millim.
Length of the entire skull	 57
Length of nasal bones	 15
Length of frontal suture	22
Least width of the frontals	15
Distance between the incisor and first molar	 12
Length of upper molar series	 12
Width of palate between the second molars	
Length of first upper molar	 3
Length of second upper molar	
Length of third upper molar	 $3\frac{1}{8}$
Length of fourth upper molar	21
Length of lower molar series	

LONCHERES CANICEPS. (Plate LXXIII.)

Fur of uniform softness, without any spines. Tail rather densely covered with short hairs, below which the scales are more or less visible; towards the end of the tail the hairs are thicker, entirely hiding the scales. Upper parts rusty brown, with an admixture of some black hairs. Head to behind the eyes grey. Lower parts reddish white. Feet greyish, toes whitish. Tail black.

		lin.
Length of head and body	11	0
,, tail	7	6
Distance between nose and eye		
Length of fore foot	1	0
,, liind foot		

This species belongs to the group with short snout, the distance between incisors and molars being considerably less than the length of the molar series. The molar series diverge in front as well as behind in both jaws. The single molar teeth are long, especially the first. The enamel-folds traverse generally the entire width of the teeth.



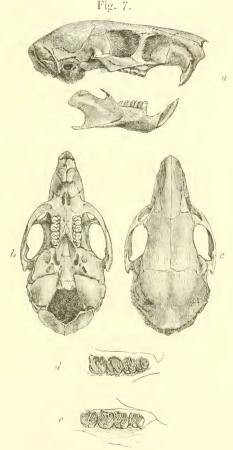
Skull of Loncheres caniceps. c, lower molors; d, upper molars: twice nat. size.

c, tower motors, w, apper montre. Three mer. since	
	millim.
Length of nasal bones	18
,, frontal suture	20
Distance between upper incisor and first molar	10
Length of upper molar series	$13\frac{1}{2}$
Width of palate between first molars	$3\frac{1}{2}$
", second molars	3
,, fourth molar	$5\frac{1}{2}$
Length of first upper molar	4
,, second inolar	31
third, as well as fourth molar	3
,, first lower molar	4
" second, third, or fourth molar	$3\frac{1}{2}$

Skin of an adult male from Medellin, collected by Mr. T. K. Salmon.

ECHIMYS DIMIDIATUS.

Fur composed of hairs only, somewhat harsh to the touch, and of moderate length. Tail nearly naked, covered with very small scales, pencilled at its extremity. Upper and lateral parts uniform brown,



Skull of *Echimys dimidiatus*, d, upper molars; e, lower molars; twice nat. size.

lower parts of a pure white; the two colours sharply defined. The white colour extends in a narrow stripe round the upper lip, and occupies also the lower half of the tail. Feet brownish grey, toes

whitish. Ears of moderate size. Claws feeble. Tail not much shorter than the body.

		m. Im.
Length of	f head and body	7 6
	tail	
>>	hind foot	1 9

The palatal notch extends far forwards, nearly to the level of the front margin of the third molar.

	millim.
Total length of skull	47
Length of nasal bones	17
,, frontal suture	
Least width of frontals	11
Distance between incisor and first molar	9
Length of upper molar series	8
,, lower molar series	

A fully adult male (stuffed) has been in the Museum for many years; nothing is known of its history beyond that it was presented by the Earl of Derby.

ECHIMYS BREVICAUDA.

Echimys brachyurus, Waterh. Mamm. ii. p. 345 (not synon.).

Fur composed of rigid hairs of moderate length, which, although flattened and channelled, are so narrow and flexible as not to merit the term of spines. Tail scaly, with scattered hairs. Upper parts

Fig. 8.



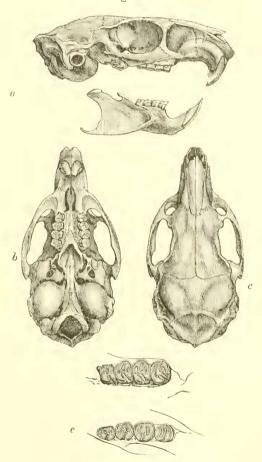
Foot and spine of Echimys brevicauda.

brownish red, the hairs having black tips; sides similarly coloured, but of a lighter shade; throat and sides of the abdomen reddish white, middle of the abdomen white. Feet and tail greyish. Thumb scarcely detached, but distinctly clawed; the third and fourth fingers project about two lines beyond the second. The three middle toes are armed with rather strong claws and of nearly the same length. Ears of moderate size. Tail much shorter than the body.

						lin.
Length of	head and	body .	 	 	9	()

	in.	lin.
Distance between nose and eye	()	11
Length of fore foot	0	$10^{\frac{1}{2}}$
hind foot	1	11

Fig. 9.



Skull of *Echimys brevicauda*.

d, upper molars; c, lower molars: twice nat. size.

The skull and dentition appear to differ scarcely from those of tercomys eunicularius and Echimys cayennensis. The palatal notch is on a level with the hind margin of the last molar.

1	millim.
Total length of skull	56
Length of nasal bones	
" frontal suture	
Distance between incisor and first molar	12
Length of upper molar series	
" lower molar series	9

An adult male in spirits and the skin of an adult female were brought by Mr. E. Bartlett from Chamieuros, Huallaga river.

I believe that the specimen in the British Museum from Bolivia, noticed by Mr. Waterhouse as *E. inermis* (Mannn. ii. p. 498, pl. 16. fig. 5), is not specifically distinct from the Huallaga specimen. Its fur is somewhat less harsh than that of the latter, and its throat is white; but the skulls of both examples are entirely alike. Unfortunately the tail is lost. The true *Echimys inermis* of Pictet has a considerably longer tail than *E. brevicauda*.

Nor can there be any doubt that the two specimens from Chinore, which Mr. Waterhouse determined as *E. brachyurus*, are only the young of the same species. I removed the skull from the larger individual, and found only three molars developed. These examples, as well as the one named "*E. inermis*," are from the same collection,

made by Mr. Bridges in Bolivia.

Echimys semispinosus (Tomes) differs in having the spines more strongly developed, and in its coloration.

ECHIMYS FERRUGINEUS. (Plate LXXIV.)

This species is allied to those which have been described under the names of hispidus, spinosus, and brachyurus, but is distinguished from the first by its shorter tail, from E. spinosus (Licht.) or brachyurus (Wagn.) by its shorter hind foot, and from E. spinosus of Rengger

by a longer tail.

The whole of the upper and lateral parts is covered with spines, which are strong and broad on the middle and posterior parts of the body, becoming weaker towards the head and limbs, only the foremost part of the nose and cheeks being covered with hairs. Tail covered by large scales, with intermixed longish hairs sparse on the proximal half, but more dense towards its extremity, which terminates in a single very long fine hair. Upper parts and sides of a bright rusty red, shaded with greyish along the middle of the head and back and on the sides of the neck, each bristle having a greyish ring near the point, which is red. All the lower parts and limbs salmon-coloured. Lower lip and toes whitish. Tail grey. Ears of moderate size; claws of proportionate strength.

	in. lin.
Length of head and body	6 - 3
,, tail	
,, hind foot	1 3
,, longest bristle	
Width of longest bristle	0^{4}_{3}

The palatal notch extends forwards to the level of the middle of the third molar.

	millim.
Total length of skull	44
Length of nasal bones	13
,, frontal suture	
Least width of frontals	11
Distance between incisor and first molar	$8\frac{1}{3}$
Length of upper molar series	
,, lower molar series	

The skin of a fully adult male was obtained by Mr. E. Bartlett at Chamieuros, Huallaga River.

November 21, 1876.

Prof. W. II. Flower, V.P., F.R.S., in the Chair.

The Secretary read the following report on the additions to the

Society's Menagerie during the month of October 1876.

The total number of registered additions to the Society's Menagerie during the month of October was 91, of which 52 were acquired by presentation, 18 by purchase, 2 by exchange, 2 were bred in the Gardens, and 17 were received on deposit. The total number of departures during the same period, by death and removals was 155.

Mr. Sclater exhibited the skin of a young Rhinoceros belonging to Mr. W. Jamrach.

The animal had been captured in the Sunderbunds, near the Ray Mangal river, in May last, and brought immediately to Calcutta, where it only lived 24 hours. Mr. Sclater called attention to the folds in the skin, which were exactly those of Rh. sondaicus, though it remained to be proved whether the Rhinoceros of the Sunderbunds was really identical with the Malacean and Javan forms. According to Mr. Jamrach's information, the females of the species obtained in the Sunderbunds were entirely destitute of any horn *, which would appear not to be the case in the Javan animal. Mr. Sclater believed that this was the first specimen of the Rhinoceros of the Sunderbunds that had been brought to this country.

The Secretary exhibited, on the part of Mr. A. Anderson, F.Z.S., a coloured drawing of *Emys hamiltonii*, taken from life, from a specimen that was captured at Futtehgurh (Ganges) in April last. The occurrence of this, our handsomest emydine in India, a species chiefly confined to Lower Bengal, so far west as Futtehgurh (some 700 miles) was stated by Mr. Anderson to be of great interest. It proved, on dissection, to be a female, and measured across the carapace 10×9.6 inches.

^{*} The Rhinoceros inermis of Lesson (Compl. aux œuvres de Buff. ed. 2, vol. i. p. 514) appears to have been based on such a female.—P. L. S.